FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

1. TESTING OF FINE AGGREGATES: **Date: 03-07-2015**

Sub: Testing of Fine Aggregates.
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 30-06-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2007) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	97.20	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	84.00	60-95	75-100	85-100	
01.18	76.30	30-70	55-90	75-100	
600. mic	49.00	15-34	35-59	60-79	
300.mic	19.20	5-20	8-30	12-40	
150.mic	2.94	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2007)
1	Silt Content	001	1.45 %	Not more than 8%
2.	Specific Gravity	----	2.59	-------

*As Furnished by Client.
The Results relate only to the items tested.

DEPARTMENT OF CIVIL ENGINEERING BANGALORE

3/7/2015

Dr. MANJESH .L
ME (Civil Engg). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail. manjeshl@yahoo.com

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

1. TESTING OF COARSE AGGREGATES (40 mm): **Date: 04-07-2015**

Sub: Testing of Coarse Aggregates.
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 30-06-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	*Single size*	*Graded*
40mm	97.20	85-100	95 – 100
20mm	66.30	0 -20	30- 70
10mm	24.10	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2007)
1.	Flakiness Index	As above	15.70 %	Not to exceed 25 %
2.	Crushing value	----,,----	26.30%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As Furnished by Client.
The Results relate only to the items tested.

DEPARTMENT OF CIVIL ENGINEERING BANGALORE

4/7/2015

Dr. MANJESH .L
ME (Civil Engg .). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

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E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

1. TEST REPORT ON CEMENT:

Date: 09-07-2015

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 30-06-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla
Grade * : 53
Type * : OPC
Date : 01-07-2015 to 08-07-2015

SL No	Name of Test	Results	Requirements as per IS 12269-1987
		Cement Sample	
1	Initial setting time	**135 min**	Shall not be less than 30 min
2	Final setting time	**240 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.60 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.20 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results) b) 7 days (average of three results)	**28.90 N/ Sq mm** **44.00 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

*As Furnished by Client.
The Results relate only to the items tested.

9/7/2015

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056

Dr. MANJESH .L
ME (Civil Engg). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

Date: 04-07-2015

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 10mm.
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 30-06-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

TABLE – 1

SL No	Details	For 10mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**10.0mm**	10.0mm
02	Observed Wt/m Length **Kg/m**	**0.623**	0.567
03	Proof stress/Yield stress, fy , **N/mm^2**	**556.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**21.30**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**628.0**	545.0

*As furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME (Civil Engg). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

DATE: 17-07-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (07 days Compressive Strength)
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}
Ref. : Letter No. Testing/BUB/2015-16, dated 17-07-2015
Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore
Name of the Agency*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	10-07-15	17-07-15	07	22500	385	17.11	**17.33**
	002	"	"	"	"	400	17.77	
	003	"	"	"	"	385	17.11	

*As Furnished by Client.
The Results relate only to the items tested.

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Dr. MANJESH .L
ME (Civil Engg .). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
e- mail: manjeshl@yahoo.com

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ **Date: 04-07-2015**

1. TEST REPORT ON PRE –CAST SOLID BLOCKS:

Sub: Testing of Pre-Cast Solid Block- Compressive strength.
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 01-07-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON PRE –CAST SOLID BLOCKS

SPECIMENS

TABLE 1. 1:-

Sl No	Dimensions of Specimen **mm**	Details	Cross Sectional Area **mm²**	Maximum Load in **KN**	Compressive Strength **N/ mm²**	**Average Compressive Strength N/ mm²**
1	400X 200X 200	Solid	80000	300	3.75	**3.81**
	----,,----	"	80000	315	3.93	
	----,,----	"	80000	300	3.75	

*As furnished by Client.
The Results relate only to the items tested.

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Dr. MANJESH .L
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BANGALORE - 560 056

BUB/CTE/2015-16/

Date: 04-07-2015

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 01-07-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**96.10**	95-100
26.50	**---**	-
22.40	**75.20**	60-80
11.20	**46.30**	40-60
4.75	**37.10**	25-40
2.36	**24.00**	15-30
0.600	**19.00**	8-22
0.075	**3.90**	0-8

*As furnished by Client.

The Results relate only to the items tested.

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Dr. MANJESH .L
ME (Civil Engg). Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University Jnanabharathi Campus
BANGALORE- 560 056
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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

Date: 13-07-2015

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: Testing of Bitumen Premix Sample (Semi Dense Bituminous Concrete-SDBC).
{Project*: Improvements to roads in Ward No.09 Vidyaraynapura Sub-Division}

Ref. : Letter No. Testing/BUB/2015-16, dated 10-07-2015

Sample supplied to lab by : Assistant Executive Engineer,
Vidyaranyapura Sub Division,
BBMP, Bangalore

Name of the Agency*: M/s KRIDL, Bangalore.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.04 %**
2. **Gradation Test** :

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-15 of MORTH Specifications-2001 (Grading – 2)
13.2	**100**	100
9.5	**95.30**	90—100
4.75	**47.20**	35—51
2.36	**39.00**	24—39
1.18	**27.00**	15—30
0.3	**18.00**	09—19
0.075	**4.90**	03—08

* As furnished by Client.
The Results relate only to the items tested.

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Dr. MANJESH .L
ME (Civil Engg.) Ph D MISTE.MIRC
Associate Professor
Department of Civil Engineering
Bangalore University: Jnanabharathi Campus
BANGALORE- 560 056.
e- mail: manjeshl@yahoo.com